PAT-NO:

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TITLE:

PORTABLE BUSH CUTTER

PUBN-DATE:

June 9, 1998

INVENTOR - INFORMATION:

NAME

TADA, OSAMU

YAMAMOTO, TAKAYUKI

ASSIGNEE-INFORMATION:

NAME

KIORITZ CORP

COUNTRY N/A

APPL-NO:

JP08315232

APPL-DATE:

November 26, 1996

INT-CL (IPC): A01D034/68

## ABSTRACT:

PROBLEM TO BE SOLVED: To provide a portable bush cutter capable of improving handleability and reducing the fatigue of an operator.

SOLUTION: This portable bush cutter 2 is provided with a cutting blade

device 8 on the front end of an operation rod 6 extended from a prime mover 4

to a front part and a bush cutting operation is performed while holding a pair

of left and right grips 16 and 16' extended upwards provided on both left and

right ends of a handle rod 14 crossed and arranged at the middle part of the

operation rod 6 with both hands. In this case, the handle rod 14 is constituted of a first part 14' from a crossing part with the operation rod 6

to one grip 16 and a second part 14" from the operation rod 6 to the other grip

16' and the first part 14' is provided with a shape bent to a rear part

being extended over the almost horizontal width of the body of the operator.

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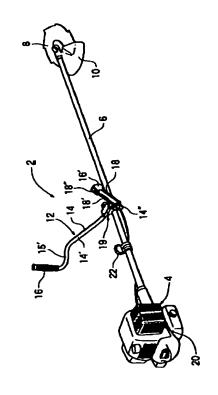
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(74)代理人 弁理士 中村 稔 (外6名)

## (54) 【発明の名称】 携帯用刈払機

#### (57)【要約】

【課題】より使い勝手が良く、また、作業者の疲労度を軽減することのできる携帯用刈払機を提供すること。 【解決手段】原動機(4)から前方に向けて延びる操作杆(6)の前端に刈刃装置(8)を有し、前記操作杆(6)の途中部分で交差して配置されたハンドル杆(14)の左右両端に設けられた、上方に向けて延びる左右一対のグリップ(16、16')を両手で持ちながら刈払作業を行う携帯用刈払機(2)において、前記ハンドル杆(14)が、前記操作杆(6)との交差部分から前記一方のグリップ(16)に至る第1部分(14')と、前記操作杆(6)から前記他方のグリップ(16')に至る第2部分(14')とで構成され、前記第1部分(14')は、作業者の身体(17)のほぼ横幅にわたって延びた後に、後方に向けて屈曲した形状を有すること、を特徴とする携帯用刈払機。



Number	
Char or pipe   bush adh; cut\$3 and handle and grips and (bar or pipe)   bush adh; cut\$3 and handle and grips and (bar or pipe)   cut\$4   cut\$5   cut	
2	
(bar or pipe)  (bar or pipe)  (bush adj cut\$4) and handle and grips and (bar or pipe)  (base and cut\$4) and handle and grips and (bar or pipe)  (bar or pipe)  (bash adj cut\$4) and handle and grips  (bash adj cut\$4) and handle and grips  (cool-face and cut\$4) and handle and grips  (cool-fac	
Company   Comp	
Company   Comp	
3   6   (bush adj cut\$4) and handle and grips and (bar or pipe)   USPĀT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB   USPĀT   2003/10/20   09:51   USPĀT   2003/10/20   09:51   USPĀT   2003/10/20   09:38   USPĀT   2003/10/20   09:43   USPĀT   2003/10/20   09:43   USPĀT   2003/10/20   09:43   2003/10/20   09:43   2003/10/20   09:43   2003/10/20   09:43   2003/10/20   09:45   2003/10/20   09:45   2003/10/20   09:47   2003/10/20   09:47   2003/10/20   09:47   2003/10/20   09:47   2003/10/20   09:47   2003/10/20   09:47   2003/10/20   09:47   2003/10/20   09:49   2003/10/20   09:49   2003/10/20   09:49   2003/10/20   09:49   2003/10/20   09:49   2003/10/20	
(bar or pipe)  (bar or pipe)  (bar or pipe)  (bar or pipe)  (car of a reforment in the car	
## 14 ### 14 ### 14 ### 14 ### 14 ### 14 ### 14 ### 14	
18M_TDB	
1	
1	
1	
"6196082").PN.	
6 3 605668.URPN.  8 ("4288171"   "5167353"   "5678458"   USPAT 2003/10/20 09:45 2003/10/20 "5881606"   "5941653"   "5970692"   USPAT 2003/10/20 09:47 2003/10/20 20:47 2003/10/20 20:47 20	
8 ("4288171"   "5167353"   "5678458"   USPAT 2003/10/20 09:47  9 7 ("2229056"   "3912056"   "4900183"   USPAT 2003/10/20 09:49  10 7 ("2229056"   "3912056"   "4900183"   USPAT 2003/10/20 09:49  11 3 5427465").PN.  11 3 5427465.URPN.  12 11 (bush adj cut\$4) and handle and grips USPAT; USPA	
"5881606"   "5941653"   "5970692"   "6056668"   "6305241").PN. ("2229056"   "3912056"   "4006528"   "58427465").PN.  10 7 ("2229056"   "3912056"   "4006528"   "4288171"   "4761939"   "4900183"   "4288171"   "4761939"   "4900183"   "5427465").PN.  11 3 5427465").PN.  12 11 (bush adj cut\$4) and handle and grips  14 ((bush or vegetable) adj cut\$4) and handle and grips  15 (bush ad grips  16 (bush or vegetable) adj cut\$4) and handle and grips  17 (bush or vegetable) adj cut\$4) and handle and grips  18 (bush or vegetable) adj cut\$4) and buspar; and buspar buspa	
10	
9 7 ("2229056"   "3912056"   "4006528"   USPAT 2003/10/20 09:49  10 7 ("2229056"   "3912056"   "4006528"   USPAT 2003/10/20 09:49  11 3 5427465").PN.  11 3 5427465").PN.  12 11 (bush adj cut\$4) and handle and grips USPAT; USPAT; IBM_TDB  14 ((bush or vegetable) adj cut\$4) and handle and grips USPAT; US	
10	
10	
10 7 ("2229056"   "3912056"   "4006528"   USPAT 2003/10/20 09:49  11 3 5427465").PN.  12 11 (bush adj cut\$4) and handle and grips USPAT; USPAT	
"4288171"   "4761939"   "4900183"   "5427465").PN.  11	
11 3 5427465.URPN.  12 11 (bush adj cut\$4) and handle and grips USPAT; U	
12	
11 (bush adj cut\$4) and handle and grips  USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB USPAT; US-PGPUB; EPO; JPO; DERWENT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	
US-PGPUB; EPO; JPO; DERWENT; IBM_TDB  ((bush or vegetable) adj cut\$4) and USPAT; US-PGPUB; handle and grips  US-PGPUB; EPO; JPO; DERWENT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	
14 14 ((bush or vegetable) adj cut\$4) and USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB handle and grips US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	
DERWENT; IBM TDB USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	
14 ((bush or vegetable) adj cut\$4) and USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	
handle and grips  US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	
EPO; JPO; DERWENT; IBM_TDB	
DERWENT; IBM_TDB	
IBM_TDB	
2 ((bush or vegetable) adj cut\$4) and USPAT; 2003/10/20	
handle and grip and ribs US-PGPUB; 11:07	
EPO; JPO;	
DERWENT;	
IBM_TDB USPAT; 2003/10/20	
16   1793   handle and grips and ribs   USPAT;   2003/10/20   US-PGPUB;   11:07	
EPO; JPO;	
DERWENT;	
IBM_TDB	
17 97 handle same grips same ribs USPAT; 2003/10/20	
US-PGPUB;   11:07 EPO; JPO;	
DERWENT;	
IBM TDB	
18 7 handle same grips same ribs and gravity USPAT; 2003/10/20	
US-PGPUB;   11:08	
EPO; JPO;	
DERWENT; IBM TDB	
19 97 handle same grips same ribs USPAT; 2003/10/20	
US-PGPUB; 13:25	
EPO; JPO;	
DERWENT;	
IBM_TDB	
20 1 6370986.URPN. USPĀT 2003/10/20 11:10	
21 12 ("2754863"   "2960133"   "2983296"   USPAT 2003/10/20	
"4166488"   "4738166"   "5280739"   11:10	
"5299475"   "5443378"   "5588343"	
"5601003"   "5657674"   "5704259").PN.	

10/20/03 5:44:02 PM Search History

22	7	6035742.URPN.	USPAT	2003/10/20
22	<b>'</b>			11:14
23	140	hand same grips same ribs	USPAT; US-PGPUB;	2003/10/20
			EPO; JPO;	13.41
			DERWENT;	
			IBM_TDB	0000 (10 (00
24	19	("D274122"   "D299333"   "D411432"   "0450906"   "0570186"   "0578959"	USPAT	2003/10/20 13:27
		"0605626"   "0612057"   "3205729"		13.27
		"3405749"   "3982446"   "4158407"		
		"4535649"   "4716502"   "4893519"		
		"5247431"   "5263275"   "5507202"   "5584213").PN.		
25	7	6035742.URPN.	USPAT	2003/10/20
		5000517 17001	USPAT	13:30   2003/10/20
26	13	5203517.URPN.	USPAI	13:34
27	8	("1415678"   "4179081"   "4248392"	USPAT	2003/10/20
		"4484717"   "4722493"   "4784348"		13:35
28	12	"4817762"   "4834312").PN. handgrips same ribs	USPAT;	2003/10/20
20	14	indiagrips same tips	US-PGPUB;	13:37
			EPO; JPO;	
			DERWENT; IBM TDB	
29	924	74/551.9	USPAT;	2003/10/20
			US-PGPUB;	13:41
			EPO; JPO; DERWENT;	
			IBM TDB	
31	8	74/551.9.ccls. and hand same grip and	USPAT;	2003/10/20
1		hollow and rib	US-PGPUB; EPO; JPO;	13:50
			DERWENT;	
			IBM_TDB	2002/10/20
32	20	4972733.URPN.	USPAT	2003/10/20
33	7	("0599131"   "3301335"   "3881554"	USPAT	2003/10/20
		"4217677"   "4401167"   "4471209"		13:47
34	9	"4768406").PN.   74/551.9.ccls. and hand and grip and	USPAT;	2003/10/20
• •		hollow and rib	US-PGPUB;	13:51
			EPO; JPO; DERWENT;	
			IBM TDB	
30	436	74/551.9.ccls.	USPĀT;	2003/10/20
1			US-PGPUB; EPO; JPO;	13:52
			DERWENT;	
			IBM_TDB	
35	2	6276231.URPN.	USPAT	2003/10/20 13:54
36	12	   ("2222121"   "3189069"   "3344684"	USPAT	2003/10/20
		"3633437"   "4768406"   "4900291"		13:54
		"4969231"   "4972733"   "5197927"   "5355552"   "5564316"   "5584213").PN.		
-	4	(bush adj cut\$3) and handle and grips and	USPAT;	2003/03/03
	_	(bar or pipe)	US-PGPUB	18:48
-	4	("4226021"   "5718052"   "5842277"   "6021630").PN.	USPAT	2003/03/03
_	1000	handle and grips and (bar or pipe) and	USPAT;	2003/03/03
		gravity	US-PGPUB	16:47 2003/03/03
-	129	(handle and grips and (bar or pipe) and gravity ) and balance and central	USPAT; US-PGPUB	16:51
-	1	((handle and grips and (bar or pipe) and	USPAT;	2003/03/03
		gravity ) and balance and central) and	US-PGPUB	16:48
_	242	escape same grip (handle and grips and (bar or pipe) and	USPAT;	2003/03/03
	L	gravity ) and balance	US-PGPUB	16:52

-	129	((handle and grips and (bar or pipe) and	USPAT;	2003/03/03
		gravity ) and balance and central) and	US-PGPUB	16:52
		balance		0000/10/14
-	42	((handle and grips and (bar or pipe) and	USPAT;	2003/10/14
		gravity ) and balance and central) and	US-PGPUB	16:54
		balance and mass	******	2002/02/02
-	390011	(center or middle) and (handle or grip or	USPAT;	2003/03/03
ł	206021	bar or pipe)	US-PGPUB USPAT;	18:31 2003/03/03
-	386031	(center or gravity) and (handle or grip	US-PGPUB	18:32
	110165	or bar or pipe) (center or gravity) same (handle or grip	USPAT;	2003/03/03
-	110163	or bar or pipe)	US-PGPUB	18:32
_	110165	l	USPAT;	2003/03/03
	110105	or bar or pipe)	US-PGPUB	18:48
_	12	((center or gravity) same (handle or grip		2003/03/03
		or bar or pipe) ) and balance and handle	US-PGPUB	18:39
		adj mass		
_	12	((center or gravity) same (handle or grip	USPAT;	2003/03/03
		or bar or pipe) ) and balance and handle	US-PGPUB	18:40
	ŀ	adj mass		
-	6	(handle or bar) same gravity same	USPAT;	2003/03/03
1		throttle same grip	US-PGPUB	18:43
-	6	((bush adj cut\$3) ) and(center or	USPAT;	2003/03/03
		gravity) same (handle or grip or bar or	US-PGPUB	18:50
1		pipe)		
-	48	(		2003/03/03
	_	bar or pipe)	US-PGPUB	19:00
-	4		USPAT	2003/03/03
		"6021630").PN.	USPAT;	18:57   2003/03/03
-	89	(bush adj cut\$3)	US-PGPUB	19:16
_	221761	gravity	USPAT;	2003/03/03
	221,01	gravroj	US-PGPUB	19:16
_	40	central adj gravity	USPAT;	2003/03/03
			US-PGPUB	19:17
-	7	central adj gravity and handle	USPAT;	2003/03/03
			US-PGPUB	19:21
-	262	1 ' '	USPAT;	2003/03/03
	05.66	handle same grip	US-PGPUB USPAT;	19:44 2003/03/03
-	8566	(((central or center) adj gravity) same handle same grip) and vibrat\$3 same as	US-PGPUB	19:23
		bar same mass	05 10105	13.23
_	8		USPAT;	2003/03/03
		handle same grip) and vibrat\$3 same mass	US-PGPUB	19:36
_	21	(((central or center) adj gravity) same	USPAT;	2003/03/03
1		handle same grip) and vibrat\$3 and mass	US-PGPUB	19:36
-	6	5645370.URPN.	USPAT	2003/03/03
	1			19:40
-	6	5645370.URPN.	USPAT	2003/03/03
		/ /	IICDATE	19:42   2003/03/03
-	8	("3308728"   "3538821"   "3856426"     "4014620"   "4186197"   "4557336"	USPAT	19:42
	1	"4014620"   "4166197"   "4357336     "4895478"   "5340233").PN.		15.76
_	21	(((central or center) adj gravity) same	USPAT;	2003/03/03
	"	handle same grip) and throttle	US-PGPUB	19:56
_	2445	(handle or bar) and grip and ((center or	USPAT;	2003/03/03
		central) adj gravity)	US-PGPUB	19:58
_	909	(handle or bar) and grips and ((center or	USPAT;	2003/03/03
	1	central) adj gravity)	US-PGPUB	19:58
-	46	, , , , , , , , , , , , , , , , , , ,	USPAT;	2003/03/03
		or central) adj gravity)	US-PGPUB	19:58
-	212	30/226	USPAT;	2003/03/04
1_	5895	30/226 and bush adhj cut\$3 and handle and	US-PGPUB USPAT;	2003/03/04
-	3093	grips	US-PGPUB	10:52
_	2	30/226 and (bush adhj cut\$3) same handle	USPAT;	2003/03/04
		same grip	US-PGPUB	10:53
-	539		USPAT;	2003/03/04
	1		US-PGPUB	10:53
-	3	1 '	USPAT;	2003/03/04
		same grip	US-PGPUB	10:54

- 450 30/216 - 16 30/216 and (bush adh) cut\$3) same handle us-pcpub us-pcpu		16 1213 36 89 6 486 23	30/216 and (bush adhj cut\$3) same handle same grip 56/12.7  56/12.7 and (bush adhj cut\$3) same handle same grip 30/296  30/296 and (bush adhj cut\$3) same handle same grip 56/11.3	US-PGPUB USPAT; US-PGPUB USPAT; US-PGPUB USPAT; US-PGPUB USPAT; US-PGPUB USPAT; US-PGPUB USPAT; US-PGPUB	10:54 2003/03/04 10:54 2003/03/04 10:54 2003/03/04 10:55 2003/03/04 10:55 2003/03/04 10:55
16   30/216 and (bush adh) cut\$3) same handle   USPAT;		1213 36 89 6 486 23	same grip 56/12.7  56/12.7 and (bush adhj cut\$3) same handle same grip 30/296  30/296 and (bush adhj cut\$3) same handle same grip 56/11.3	USPAT; US-PGPUB USPAT; US-PGPUB USPAT; US-PGPUB USPAT; US-PGPUB USPAT; US-PGPUB USPAT;	2003/03/04 10:54 2003/03/04 10:54 2003/03/04 10:55 2003/03/04 10:55 2003/03/04 10:55
Same grip   10:54   2003/03/04   10:54   2003/03/04   10:54   2003/03/04   10:54   2003/03/04   10:54   2003/03/04   10:54   2003/03/04   10:55   2003/03/		1213 36 89 6 486 23	same grip 56/12.7  56/12.7 and (bush adhj cut\$3) same handle same grip 30/296  30/296 and (bush adhj cut\$3) same handle same grip 56/11.3	US-PGPUB USPAT; US-PGPUB USPAT; US-PGPUB USPAT; US-PGPUB USPAT; US-PGPUB USPAT; US-PGPUB	10:54 2003/03/04 10:54 2003/03/04 10:55 2003/03/04 10:55 2003/03/04 10:55
2003/03/04   10.54   10.55		36 89 6 486 23	56/12.7  56/12.7 and (bush adhj cut\$3) same handle same grip 30/296  30/296 and (bush adhj cut\$3) same handle same grip 56/11.3	USPAT; US-PGPUB USPAT; US-PGPUB USPAT; US-PGPUB USPAT; US-PGPUB USPAT;	2003/03/04 10:54 2003/03/04 10:55 2003/03/04 10:55 2003/03/04 10:55
- 36 56/12.7 and (bush adh) cut\$3) same handle same grip 30/296		36 89 6 486 23	56/12.7 and (bush adhj cut\$3) same handle same grip 30/296  30/296 and (bush adhj cut\$3) same handle same grip 56/11.3	US-PGPUB USPAT; US-PGPUB USPAT; US-PGPUB USPAT; US-PGPUB USPAT; US-PGPUB	10:54 2003/03/04 10:55 2003/03/04 10:55 2003/03/04 10:55
Section		89 6 486 23	same grip 30/296 30/296 and (bush adhj cut\$3) same handle same grip 56/11.3	USPAT; US-PGPUB USPAT; US-PGPUB USPAT; US-PGPUB USPAT;	2003/03/04 10:55 2003/03/04 10:55 2003/03/04 10:55
Same grip   US-PCPUB   10:55   US-PCPUB		89 6 486 23	same grip 30/296 30/296 and (bush adhj cut\$3) same handle same grip 56/11.3	US-PGPUB USPAT; US-PGPUB USPAT; US-PGPUB USPAT;	10:55 2003/03/04 10:55 2003/03/04 10:55
- 89 30/296 and (bush adhj cut\$3) same handle same grip		6 486 23	30/296 and (bush adhj cut\$3) same handle same grip 56/11.3	USPAT; US-PGPUB USPAT; US-PGPUB USPAT;	2003/03/04 10:55 2003/03/04 10:55
10.55		6 486 23	30/296 and (bush adhj cut\$3) same handle same grip 56/11.3	US-PGPUB USPAT; US-PGPUB USPAT;	10:55 2003/03/04 10:55
- 6 30/296 and (bush adhj cut\$3) same handle same grip 56/11.3 - 23 56/11.3 and (bush adhj cut\$3) same handle usPAT; US-PGPUB EPO; JPO; DERWENT; IBM TDB USPAT; US-PGPUB; US	-	486 23	same grip 56/11.3	USPAT; US-PGPUB USPAT;	2003/03/04 10:55
Same grip   S6/11.3   US-PGPUB	-	486 23	same grip 56/11.3	US-PGPUB USPAT;	
- 486 56/11.3 and (bush adh) cut\$3) same handle same grip same grip handle same grips same (bar or pipe) same spart; US-PGPUB USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM TDB USPAT; US-PGPUB USPAT; US-PG	-	23	56/11.3		2002/02/04
- 23 56/11.3 and (bush adhj cut\$3) same handle same grip handle same grips same (bar or pipe) same gravity	-		56/11.3 and (bush adhj cut\$3) same handle	US-PGPUB	2003/03/04
Same grip	-		56/11.3 and (bush adhj cut\$3) same handle	<b></b>	10:55
- 16 handle same grips same (bar or pipe) same gravity - 97 handle same grips same gravity - 17:06 - 18:003/10/14 - 18:003/10/16 - 18:003/10/	-	16		USPAT;	2003/03/04
gravity handle same grips same gravity US-PGPUB USPAT; 2003/10/14 US-PGPUB; EPO; JPO; DERWENT; IBM TDB USPAT; US-PGPUB USPA	-	16			
- 97 handle same grips same gravity  - 424  30/226,90,216,296.ccls.  452  30/226,90,216,296.ccls.  452  30/226,90,216,296.ccls.  453  30/226,90,216,296.ccls.  454  455  30/226,90,216,296.ccls.  457  458  459  450  450  450  450  450  450  450	-			·	
- 424 30/226,90,216,296.ccls. USPAT; 2003/10/14 17:11 2003/10/14 17:11 2003/10/14 17:11 2003/10/14 17:11 2003/10/14 17:11 2003/10/14 17:11 2003/10/14 17:11 2003/10/14 17:11 2003/10/14 17:11 2003/10/14 17:11 2003/10/14 17:11 2003/10/14 17:11 2003/10/14 17:11 2003/10/14 17:11 2003/10/14 17:11 2003/10/14 17:11 2003/10/14 17:11 2003/10/14 17:11 2003/10/14 17:11 2003/10/14 17:12 2003/10/14 17:12 2003/10/14 17:12 2003/10/14 17:12 2003/10/14 17:12 2003/10/14 17:13 2003/10/14 17:13 2003/10/14 17:13 2003/10/14 17:13 2003/10/14 17:15 2003/10/14 17:15 2003/10/14 17:15 2003/10/14 17:15 2003/10/16 17:15 2003/10/16 18:15 2003/10/16 203/10/16	-				
- 424 30/226,90,216,296.ccls. USPAT; US-PGPUB 17:11 2003/10/14 17:11 US-PGPUB; EPO; JPO; DERWENT; IBM TDB USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB USPAT; US-PGPUB; EPO; JPO; DERWENT; ISM_TDB USPAT; USP	-	97	handle same grips same gravity	·	l i
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- 452 30/226,90,216,296.ccls. USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM TDB USPAT; US-PGPUB; USPAT; US-PGPUB; USPAT; US-PGPUB USPAT; USPGPUB; USPAT; USPGPUB; USPAT; USPGPUB; USPAT; USPGPUB; USPAT;	-	424	3U/226, 9U, 216, 296. CC15.	•	
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- 921 56/12.7,11.3.ccls.   IBM_TDB   USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB   USPAT; US-PGPUB   USPAT; US-PGPUB   USPAT; US-PGPUB   USPAT   2003/10/14   17:15   2003/10/14   17:15   2003/10/16   US-PGPUB   14:13   2003/10/16   US-PGPUB   14:13   2003/10/16   US-PGPUB   14:14   USPAT; US-PGPUB   14:14   2003/10/16   US-PGPUB   20:14   20:14   20:14   20:14   20:14   20:14   20:14   20:14	-				
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- 1036 30/276,296r.ccls.   IBM_TDB   USPAT;   US	-			EPO; JPO;	
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